



# Annual Report 2013-14

## A Message from the Executive Director

*To our many stakeholders and partners,*

For 27 years, the UB Center for Industrial Effectiveness (TCIE) has served as a university extension program, leveraging UB technical knowledge to aid for-profit and not-for-profit organizations. Our role is more important than ever as we align our efforts with "Realizing UB 2020" – the university's strategic plan released in October 2013 – to assist in addressing community needs and ultimately enhance the quality of life.

Our external engagement model is based on three core principles: assess, realize and sustain.

**Assess.** Our holistic approach starts with discovery. We meet with business leaders to understand what's working and what's not. Our proven approach in assessing a variety of performance issues prepares us to prescribe solutions that have the most beneficial impact to increase an organization's potential.

**Realize.** Be it an industry expert facilitator or faculty researcher, our skillful resources collaborate with company management to confirm possible solutions, then work to implement the most ideal resolution. Knowing the capacity of an organization's operations, workforce and support systems helps us to assure a successful outcome.

**Sustain.** Whether you call it implementation, execution or realization, sustaining improvements is essential to investing in and fulfilling objectives. While changes may result in positive gains, they do little good if the old ways resurface and continue their reign. Our method ensures that employees are properly trained, processes are optimized and technical capabilities operate efficiently.

This report highlights a number of activities undertaken last year to advance our commitment to engaging with the community, whether within Western New York (WNY), the state of New York, or beyond. In particular, we shine a light on three accomplishments:

The final year of the Innovation Hub Accelerator (iHub) has continued to create a stronger, more cohesive entrepreneurial ecosystem in WNY. UB TCIE and a consortium of UB entities were awarded a two-year grant from the Economic Development Administration to establish the iHub. An infographic depicting the grant's impact is featured in this report.

We have made a concerted effort to bolster the experiential learning opportunities for engineering students. The TCIE Engineering Fellows Program debuted in spring 2014 to provide an additional option for businesses.

Our Operational Excellence Director has completed curriculum for two new Lean Six Sigma Courses: Green Belt Transactional and Black Belt Transactional. Both are applicable across all disciplines, but were developed for the service industry. An online version premieres to the public this fall.

Thank you to our stakeholders, the business community, university leaders, and all economic development allies who share our mission of enhancing the community. We look forward to another year of assisting in this pursuit by providing excellence in service.

Sincerely,

*Timothy Leyh*

Timothy Leyh  
Executive Director



## Impact

UB TCIE annually supports hundreds of public and private organizations, connecting them to the expert resources of UB's School of Engineering and Applied Sciences (UB Engineering) to better support and sustain their strategy and execution. The metrics below provide a glimpse into how we are driving continual improvements, strengthening enterprise performance, and igniting innovation and technological advantage.

**153** Number of Businesses Served

**1,378** Professional Development – Number of People Trained/Certified

**246** Business Process Reengineering Projects

**27** Undergraduate/Graduate Students Placed

**24** Number of Markets Served

**\$1,316,059** Total Revenue

## Strategic Partnership For Industrial Resurgence (SPIR)

UB TCIE is the regional administrator for the State University of New York's Strategic Partnership for Industrial Resurgence (SPIR) grant, affording companies greater access to the resources of UB Engineering.

**12** Number of SPIR Projects

**107** Client Jobs Created

**1,661** Client Jobs Retained

**\$480,000** Value of SPIR Pipeline

**\$46,850,000** Client Increase in Revenue

## Our Mission and Values

The mission of UB TCIE is to be a leader in building the economy, by strengthening businesses and communities through excellence in service.

Our approach is to be a leading university extension service organization recognized for collaborating with diverse partners and providing a broad array of services to our stakeholders.

### Integrity

Building our reputation by being ...

- Accountable
- Credible
- Ethical
- Respectful

### Excellence

Exceeding stakeholder expectations by ...

- Achieving results
- Demonstrating leadership
- Leveraging our resources and expertise

### Service

Delivering results and fostering diversity by being ...

- Responsive
- Adding value
- Providing solutions
- Collaborating

### Innovation

Fostering a culture of creativity by embracing ...

- Change
- Lifelong learning
- Risk-taking

## General Motors Components Holdings

Pat Curtis has three words to describe a partnership that has immersed University at Buffalo engineering students at General Motors Components Holdings (GMCH) Lockport, NY, for the past four summers: a huge success.

As plant manager of the 2.8 million square-foot facility where thermal products are manufactured, he has witnessed the contributions of budding undergraduates from UB Engineering. Each year, an average seven interns help with tackling opportunities for improvement, such as reducing scrap or increasing process streamlining.

Some have impressed GMCH management enough to attract full-time job offers at the company's Lockport and Rochester plants.

*"They help solve problems. Maybe that's oversimplifying it. But you know what? That's what we do here."*

*Pat Curtis, GMCH Lockport plant manager*



## Baker Victory Services

Among the "feel-good" programs at the non-profit Baker Victory Services (BVS) of Lackawanna, NY, is a café business manned by developmentally disabled and/or at-risk youth, who prepare and serve lunch to BVS employees and community members at two sites. Vice President of Developmental Disabilities Susan Mentecki had difficulty understanding why the cafés consistently lose about \$2,000 monthly.

UB TCIE's Certified Lean Professional program guided Mentecki and her team through unearthing and rectifying four dominant operational issues blocking financial progress and, more importantly, impeding quick service. Their waste-reducing Lean project is not only improving lunch services by providing tools to better support student performance, but facilitated the development of work skill training curriculum to be marketed to area school districts.

*"They have better tools to work with and don't have to ask as many questions to get the job done. That's not just helping me, but the customer, too."*

*Ron Thomas, BVS mentor for the café,  
on student workers*



## RUS Industries

RUS Industries of Niagara Falls, NY – a small manufacturer of precision machined components – has “great customers, great machines and great people,” according to Manufacturing General Manager Erik Carlson. After 40 years of serving industries across the country, it was time to raise the company’s stature.

Carlson and his management team view the development and implementation of a formal quality management system as the avenue to an expanded customer base. More importantly, RUS shuns a “once and done” attitude and values the ISO 9001:2008 Standard and its tools as a continual approach for improving everyday operations.

As the chosen training and implementation partner, UB TCIE guided RUS in its journey to receiving an ISO Certificate of Registration.



*“The third-party auditor said he’s always worried about going to a first-time, small, private business because usually it’s not complete. He said he was unbelievably surprised about how thoroughly prepared we were.”*

*Greg Robinson, RUS Operations Manager,  
on the ISO certification process*

## Williamsville Central School District

In 2011, the Williamsville Central School District (WCSD) launched a Lean Six Sigma program administered by UB TCIE to increase efficiencies. Resulting economical advances led to a New York State Education Department grant to continue improvement efforts in the transportation department.

The UB TCIE team examined WCSD’s regular fleet and special education transportation routes to determine optimal changes. Activities were defined, documented and categorized, and a manual outlining department guidelines and high-level procedures was developed, which has led to improved workflow. The transportation supervisor was equipped with a customized tool to better manage multiple responsibilities, enabling her to limit the fire-fighting and embrace a more proactive approach.



*“We needed a fresh look at our operations from an independent group. They provide you this feedback, but don’t force their ideas on you. Rather, they create a cooperative working relationship that results in improved operational efficiencies.”*

*Thomas Maturski, WCSD Assistant Superintendent  
for Finance & Management Services*

## Business Engagement

Our toolbox contains three service verticals to address corporate needs:



### Engineering Solutions

UB TCIE serves as a gateway to accessing UB Engineering's distinct faculty, talented students and state-of-the-art testing labs. High-quality research and development ventures range from designing a prototype to distinguishing the root cause of a recurring, costly error.

Shining a spotlight on the student prong of engineering solutions, our three placement options enable the solving of industry problems, and often lead to local employment opportunities for students:

**Graduate Student Engineering Projects:** Short-term engineering projects – lasting 12 to 16 weeks – during the fall, spring or summer semesters

**Black Belt Certification Program:** Two-semester program applies the problem-solving methodology of Lean Six Sigma to eliminate process variation

**Engineering Fellows Program:** Specialized project assistance provided for one semester by outstanding graduate-level engineering students



UB is a premier research-intensive public university and a flagship institution in the 64-campus State University of New York (SUNY) system. UB Engineering, led by Dean Liesl Folks, is the largest and most comprehensive public school of engineering in New York. Annual research expenditures are \$67 million and the school's per faculty research expenditure places it in the top 10 percent of U.S. engineering schools.

The engineering departments are: Biomedical; Chemical and Biological; Civil, Structural and Environmental; Computer Science; Electrical; Industrial and Systems; and Mechanical and Aerospace. In June 2014, UB launched the Department of Materials Design and Innovation, a collaborative effort between the School of Engineering and College of Arts and Sciences. The department will build on UB's research expertise to discover, develop and bring to market new materials.



### Operational Excellence

Our skilled resource teams are highly effective agents, stressing a systemic and process-point-of-view approach. Resulting enterprise-wide improvements are data-driven and evidence-based, equating to excellent customer value. A sampling of our operational excellence services includes strategic planning, assessing gaps and identifying improvement opportunities, translating data, and implementing ISO, Lean, and Six Sigma methodologies.



### Professional Development

From short workshops to in-depth certification courses, our ISO, Lean, and Six Sigma educational programs guide professionals and their organizations toward greater performance. Facilitators with broad industry experience integrate theory, hands-on activities and examples. Whether a classroom format, blend of traditional education and online learning, or a one-on-one approach with personal mentoring, delivery is based on our customers' terms and scheduling needs.

### Strategic Partnership for Industrial Resurgence

New York State companies with fewer than 500 employees can benefit from the Strategic Partnership for Industrial Resurgence (SPIR) grant. SPIR helps pay for initiatives aimed at increasing competitiveness, such as an entrepreneur working to bring an innovation to the next level, a small business upgrading or introducing new technologies, or a high-technology firm entangled in product development and testing.

Companies apply by contacting UB TCIE. Grant funds are used collaboratively with other UB units and business assistance partners – such as START-UP NY and the Innovation Hot Spot – to subsidize faculty and/or student technical assistance. Specifically, SPIR projects include:

- Research & Development Projects
- FEA, Material Design and Selection
- Re-engineering, Layout and Workflow Analysis
- Accessing Shared Instrumentation Laboratories
- Employing Graduate and PhD Students

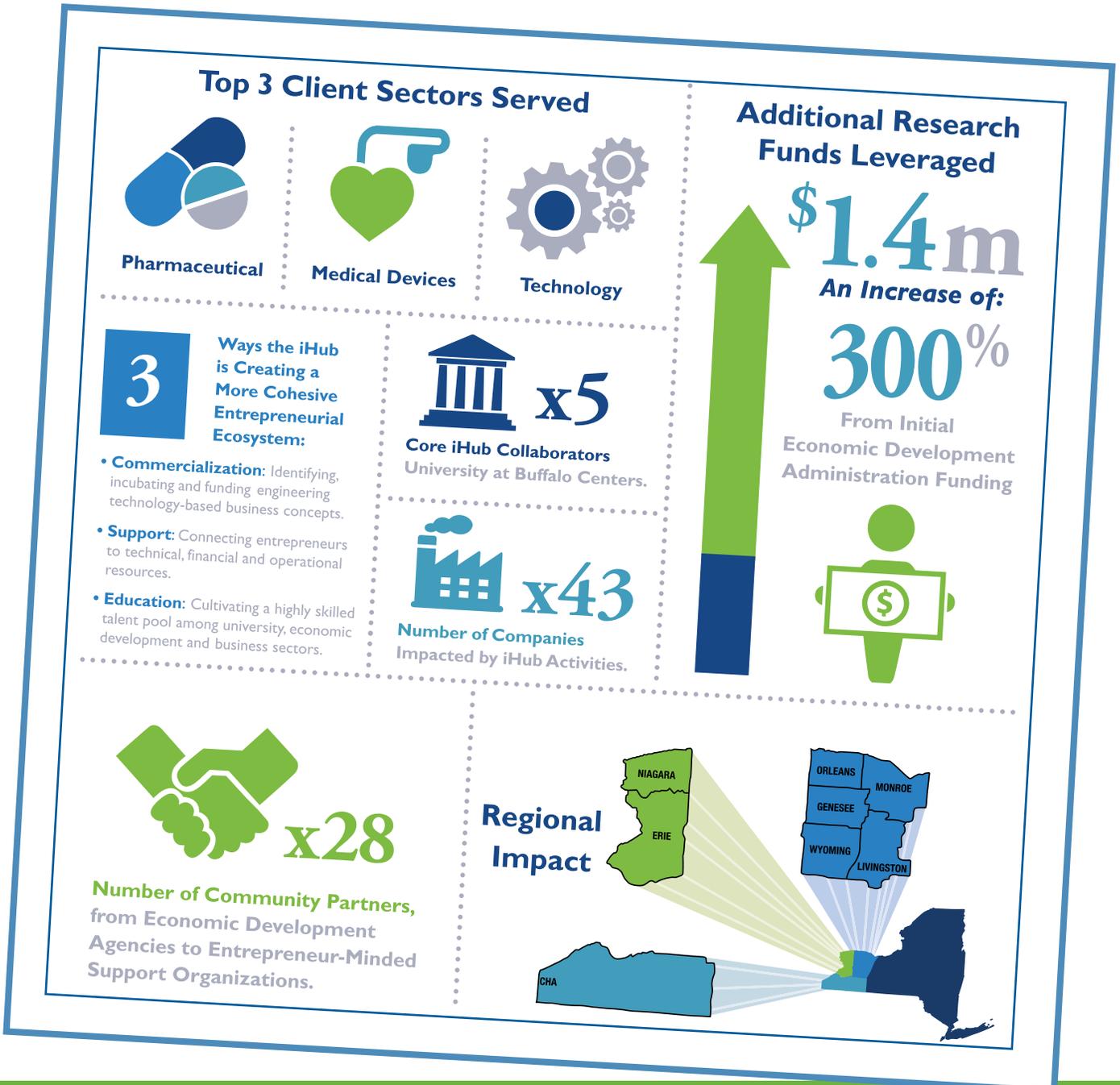


# Innovation Hub Accelerator (iHub)

In August 2012, UB TCIE and a consortium of UB entities – the UB Office of Science, Technology Transfer and Economic Outreach, New York State Center of Excellence in Bioinformatics & Life Sciences, UB School of Management and New York State Center for Engineering Design and Industrial Innovation – were awarded a two-year, \$349,565 EDA grant to foster innovation, job creation and private capital investment.

The UB consortium of units responsible for delivering iHub activities sought to expand their reach through broader endeavors. A partnership formed with Launch NY, a non-profit venture development organization serving 27 upstate New York counties, is strengthening connections between entrepreneurs, the business community and economic developers. These relationships are further enabling entrepreneurs to connect with UB's technologies and research commercialization services.

The infographic below provides a visual depiction of the iHub's influence and impact.





Center for Industrial Effectiveness  
University at Buffalo *The State University of New York*

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